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(71) Applicants (for all designated States except US): NORTH CAROLINA STATE UNIVERSITY [US/US]; 2401 Research Drive, Campus Box 8210, Raleigh, North Carolina 27695-8210 (US). THE PENNSYLVANIA STATE RESEARCH FOUNDATION [US/US]; 304 Old Main, University Park, Pennsylvania 16802 (US).

(72) Inventors; and

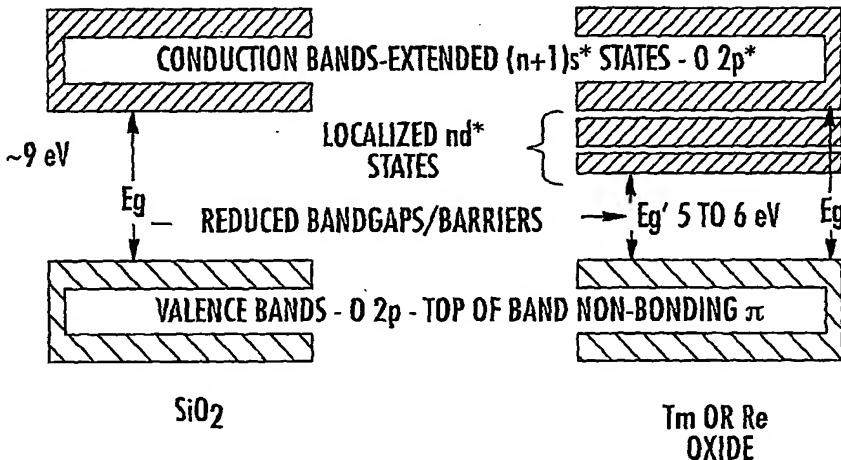
(75) Inventors/Applicants (for US only): LUCOVSKY, Gerald [US/US]; 124 Lockwood West Drive, Cary, North Carolina 27511-9744 (US). SCHLOM, Darrell [US/US]; 154

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(54) Title: COMPLEX OXIDES FOR USE IN SEMICONDUCTOR DEVICES AND RELATED METHODS



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(57) Abstract: A semiconductor device includes a semiconductor substrate, a first oxide layer on the semiconductor substrate including an element from the semiconductor substrate, and a second oxide layer on the first oxide layer opposite the semiconductor substrate. The second oxide layer includes a stoichiometric, single-phase complex oxide represented by the formula: $A_hB_jO_k$, or equivalently $(A_mO_n)_h(B_qO_r)_j$ in which the elemental oxide components, (A_mO_n) and (B_qO_r) are combined so that $h = j$ or, equivalently, $ma = bq$, and a, b, h, j, k, m, n, q and r are non-zero integers; and wherein: A is an element of the lanthanide rare earth elements of the periodic table or the trivalent elements from cerium to lutetium; and B is an element of the transition metal elements of groups IIIB, IVB or VB of the periodic table.



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